

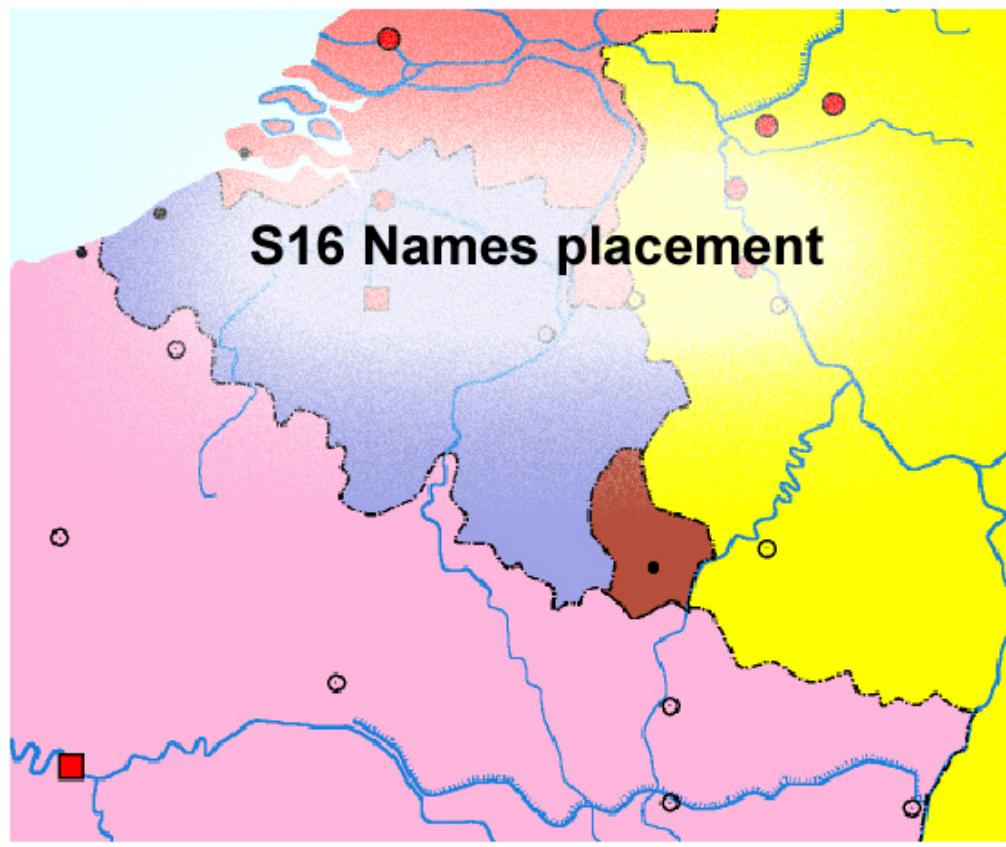
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When one is concerned with the placement of names on a map one should remember the following guiding principle:

"An optimal association should be achieved between the name and the named object".

The content of this module is based on teaching materials by Ferjan Ormeling and by Tjeerd Tichelaar. These teaching materials are made available as well, see the "[documents](#)" section.

The module contains the following chapters:

[Introduction](#)

[Chapter 1: **Spatial characteristics**](#) of map objects

[Chapter 2: **External factors**](#): non textual map content

[Chapter 3: **Graphic variables**](#) of text

[Chapter 4: **Esthetics and legibility**](#)

When reading through the following pages, you will come across some unusual terms. These terms are hyperlinked to the UNGEGN [Glossary of Terminology](#) (pdf). Behind each term a number (#) is given that corresponds to the numbering applied in this glossary, e.g. [toponymy](#) (#344).

For exercises and documents (and literature) on this topic see respectively the "[Exercises](#)" and "[Documents](#)" section of this module.

The complete module can be downloaded [here](#).

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INTRODUCTION

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When one is concerned with the placement of names on a map one should remember the following guiding principle:

"An optimal association should be achieved between the name and the named object".

To acquire this optimum one should take into account several aspects, namely:

1. Spatial characteristics of the objects: point-, line-, bounded/unbounded area
2. External factors: non-textual map content
3. Graphic variables of text
4. Esthetics & legibility

In the following sections these aspects will be elaborated upon separately.

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1. SPATIAL CHARACTERISTICS OF MAP OBJECTS

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The way in which you place names on a map is determined by the characteristics of the map objects. In cartography three kinds of objects are distinguished: **point**, **linear** and **area** object. We will shortly describe each of these objects.

(1) Point objects

- explicitly symbolized named objects: towns, mountain tops, passes, ruins
- implicitly symbolized named objects: capes
- not symbolized: sea depths

(2) Linear objects

- explicitly symbolized named objects: streams, canals
- implicitly symbolized named objects: coasts
- individual objects: streams, roads, railroads
- derived from area objects: boundaries, coastline = land area boundary (generally unnamed)

(3) Area objects

- explicitly symbolized (= cartographically bounded) named objects: lakes, islands, administrative areas
- implicitly symbolized named objects: swamps, mountain ridges, depressions, trenches, basins
- dito, partly symbolized: peninsulas, delta areas, gulfs and bays, seas, straits
- dito, collectivities: archipelagos, lakes areas
- not symbolized: historic areas, uncategorized physical areas (boundaries variable or disputed)

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2. EXTERNAL FACTORS: NON TEXTUAL MAP CONTENT

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When placing names one should consider the map itself or other map elements. Therefore, one should:

- avoid crossing names with horizontal lines (e.g. map grid)



- where possible, avoid crossing of lines (especially black and high density)



- avoid erroneous (wrong) association



- do not cover important detail

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- Which places are hard to read/find?

Martigues, Saintes Maries

- Which places are hard to locate?

Beaucaire, Tarascon

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3. GRAPHIC VARIABLES OF TEXT

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To achieve our guiding principle one should not only consider the spatial characteristics (of the map object) and the external factors (non-textual map content). The graphic variables of text can be of help to reach the optimum association between name and object. The graphic variables are:

- a) colour
- b) size
- c) plasticity
- d) line- and letterspacing
- e) type style: slant, case, letter width, line width, underline

| | | | | | | | |
|----------------------------|----------------------------------|------------|---------------|--------|------------|--------------|----------------|
| difference in hierarchy | (high) | BERN | GENÈVE | LUZERN | BEX | SION | SCHWEIZ |
| | (low) | SPIESS | Gryon | VILARS | GSTAAD | SION | SCHWEIZ |
| | | spacing | | case | size | boldness | width |
| | | grey value | | | | | |
| difference in quality | Argentine | | MURTENSEE | | VALAIS | | |
| | Lac Léman <small>blue</small> | | LAC DE MORAT | | RHÔNE | | |
| | | colour | | style | | roman/italic | |

In the following pages we will elaborate upon these variables.

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3. GRAPHIC VARIABLES OF TEXT - A) COLOUR

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Reconsider the following aspects when applying colours to text:

- systematic colour differentiation (water, land, ...)



- only if it is technically possible
- monocolour only - more difficult to differentiate between different object categories like rivers, regional names, place names, etc.
- **halftone** if possible

Halftone makes it possible to apply bigger size letters without increasing the visual impact or graphic weight



- possibilities defined by colour content of map

Keep the numbers of colours applied in a map to a minimum. Larger number of colours make the map more difficult to interpret.

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3. GRAPHIC VARIABLES OF TEXT - B) SIZE

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Take the following into consideration:

- Fixed versus variable type size - Fixed size classes are easier to recognize
- Type size variability in combination with plasticity (=curving) - more difficult to discern
- Use a limited number of fixed and distinct type sizes - otherwise the advantage of easier recognition is lost
- Size represents hierarchy

 **CAPITAL**  Town • Village

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3. GRAPHIC VARIABLES OF TEXT - 3C) PLASTICITY

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Use plasticity (let the text curve along the geographical object):

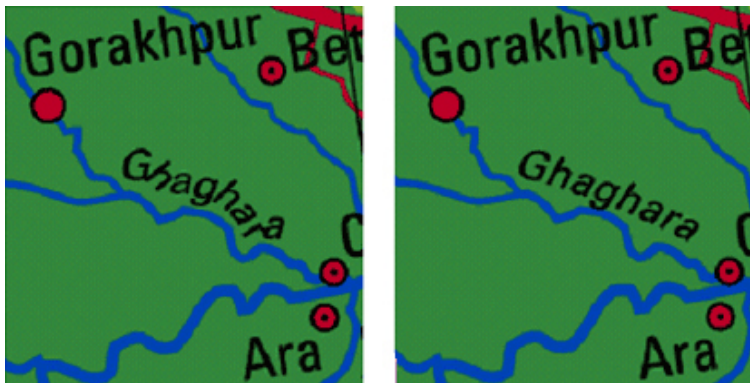
- to support the association between name and object
- to avoid confusion with other names
- for efficient use of space

and:

- take care of unwanted associations - e.g. border-crossing areas, take care that the complete geographical object is named



- guard coherence (the dispersed letters should still form one name)
- maintain esthetic appearance (smoothen curved names following rivers)



Ghaghara not too coherent here

better

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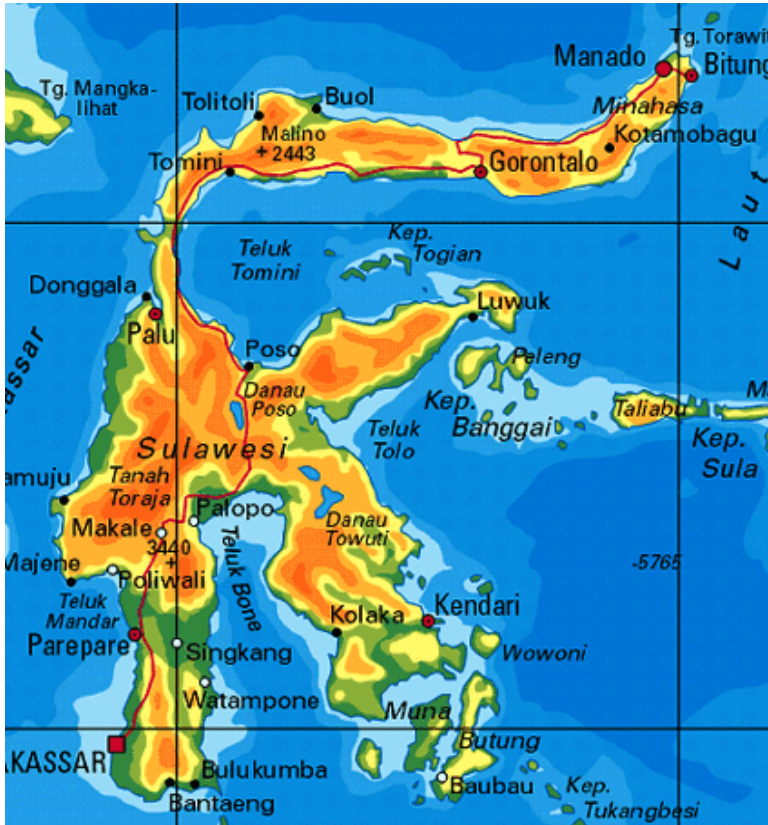
3. GRAPHIC VARIABLES OF TEXT - 3D) LINE- AND LETTERSPACING

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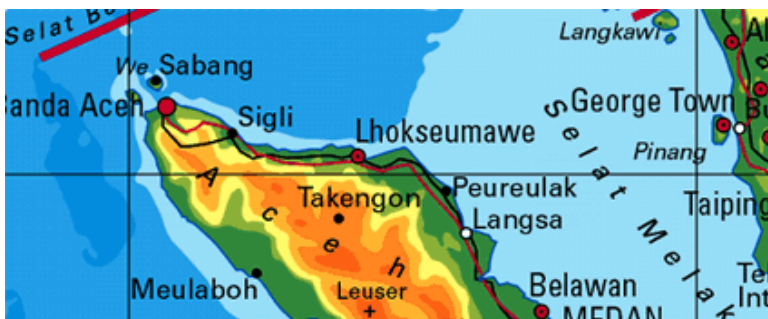
Guiding rules:

- Spacing may be appropriate for area features
- Optional for visually bounded areas (islands, countries) - see Sulawesi



The text "Sulawesi" should be spaced out from the gridlines (S u l a w e s i)

- Mandatory for larger objects without visible boundaries - see Aceh



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Text should be spaced out from the gridlines

- In combination with plastic name placement - see Aceh
- If not plastic, fixed kerning is preferable

Preconditions for letter spacing:

- the named object should be an area feature
- in case of non-plastic name placement, the name should fit inside the boundaries of the named object

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3. GRAPHIC VARIABLES OF TEXT - 3E) SLANT, CASE, WIDTH, UNDERLINE

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A type style (similar to typeface and font) can have different features:

- Slant
 - roman vs italic type style
 - logically used to distinguish two major object classes: e.g. features of high relief (mountains, plateaus) vs features of low/no relief (valleys, lowlands) or land versus water features
 - backward italic(third option) rarely used
- Case
 - capital vs mixed case
 - suitable for hierarchical distinction (quantity)
 - capitalized text allows smaller type
- Letter **width** (or just "width")
 - condensed fonts require larger type size
 - suitable for hierarchical distinction (quantity)
- Line **width** (or "boldness")
 - bold - medium - bold type varieties
 - suitable for hierarchical distinction (quantity)
- Underlining
 - single or double underlining (e.g. administrative capitals)
 - solid or dashed lines, or combinations of these
 - suitable for distinction of order

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4. ESTHETICS AND LEGIBILITY

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When producing a map it all comes down to conveying information. In order for the communication to succeed one should take into account many aspects (symbolization, use of appropriate colours, etc. ...). Names placement is one of them, in order to produce a readable map that is not cluttered with illegible placenames the following should be taken into consideration:

- a) relative location symbol - name (positioning)
- b) coherence of name (in spaced or divided words)
- c) orientation of name
- d) abbreviation/division
- e) general impression of map

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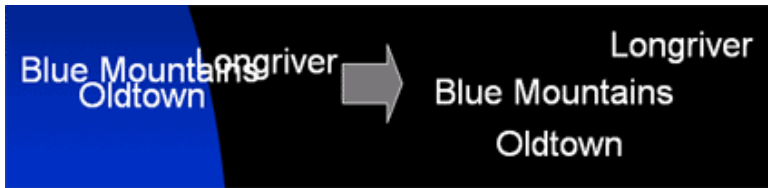
4. ESTHETICS AND LEGIBILITY - 4A) RELATIVE LOCATION - NAME (POSITIONING)

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Some rules for placing text in maps:

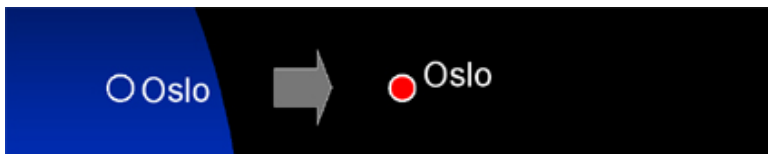
- Names must not overlap each other



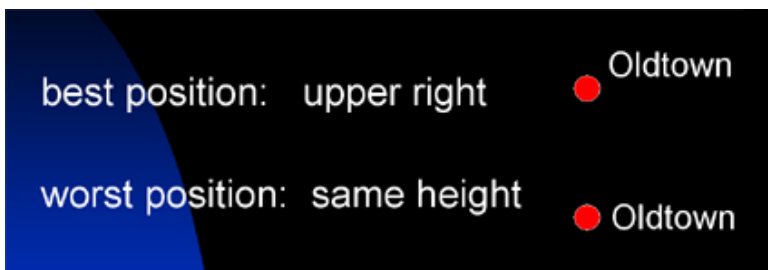
- Text should not obscure relevant map information



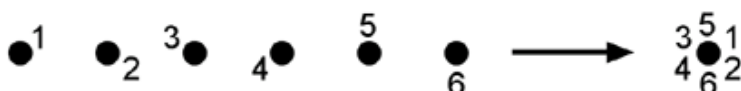
- avoid confusion of symbols and text



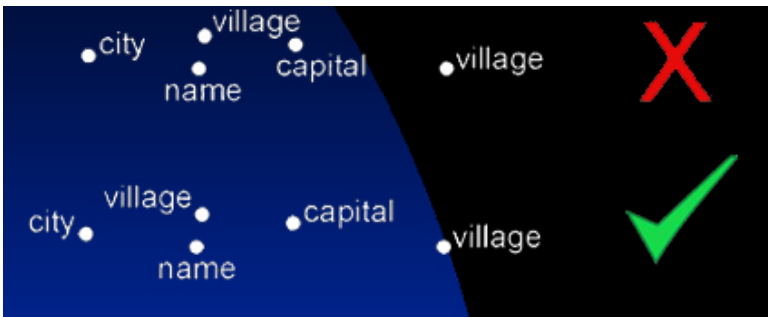
- offset (names at linear elements)
- plasticity - level of curvature
- external factors require individual decisions
- visual impact (even distribution)
- wanted versus unwanted variability
- Name placement at **point** objects



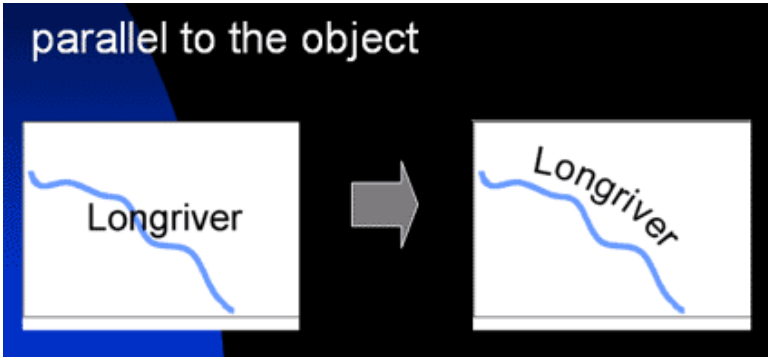
There is a specific order of preference of the location of the name relative to the named point symbol: the favourite position is to its upper right (see number 1 in figure below), the location beneath the symbol is considered decidedly less effective (#2), and a location of the name on the same line as the symbol, either to its right or to its left, is considered anathema.



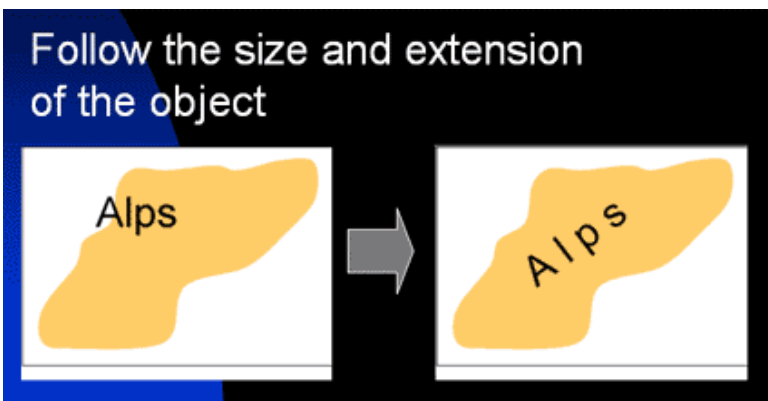
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- Name placement at **line** objects



- Name placement at **area** objects



- Automatic name placement:
 - Success depends on density of text.
 - 50% to 90% may be solved automatically.
 - Good legibility always requires manual processing.



- Remember a very important guiding principle

"position the name so as to optimize the association between name and object"

4B) COHERENCE OF NAME (IN SPACED OR DIVIDED WORDS)

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Maintain coherence through:

- **kerning**/spacing
- spaced versus compact - long versus short forms
- take care of **ligatures** (#171)
- line- and letterspacing: dependent of map (names) content

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4C) ORIENTATION OF NAME

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Three ways to orientate a name

- horizontal = following grid
- systemically rotated (see example below)



- plastic names approaching vertical line: define logical reading direction

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4D) ABBREVIATION/DIVISION

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Things to consider:

- word division (into syllables) should be linguistically correct (see module 14 on "[Toponymical Guidelines](#)")
- divide between **generic** (#112) and **specific** (#307) elements
- division required by space and/or clarity
- use standard abbreviations

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4E) GENERAL IMPRESSION OF MAP

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Take into considerations:

- a map should not appear unpleasantly crowded
- do not use unnecessary overdose of style variables
- amount of graphic text variation is commanded by the purpose of the map

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AVAILABLE EXERCISES

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EXERCISE 1: PLACING GEOGRAPHICAL NAMES ON THE MAP OF FRANCE

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Instructions:

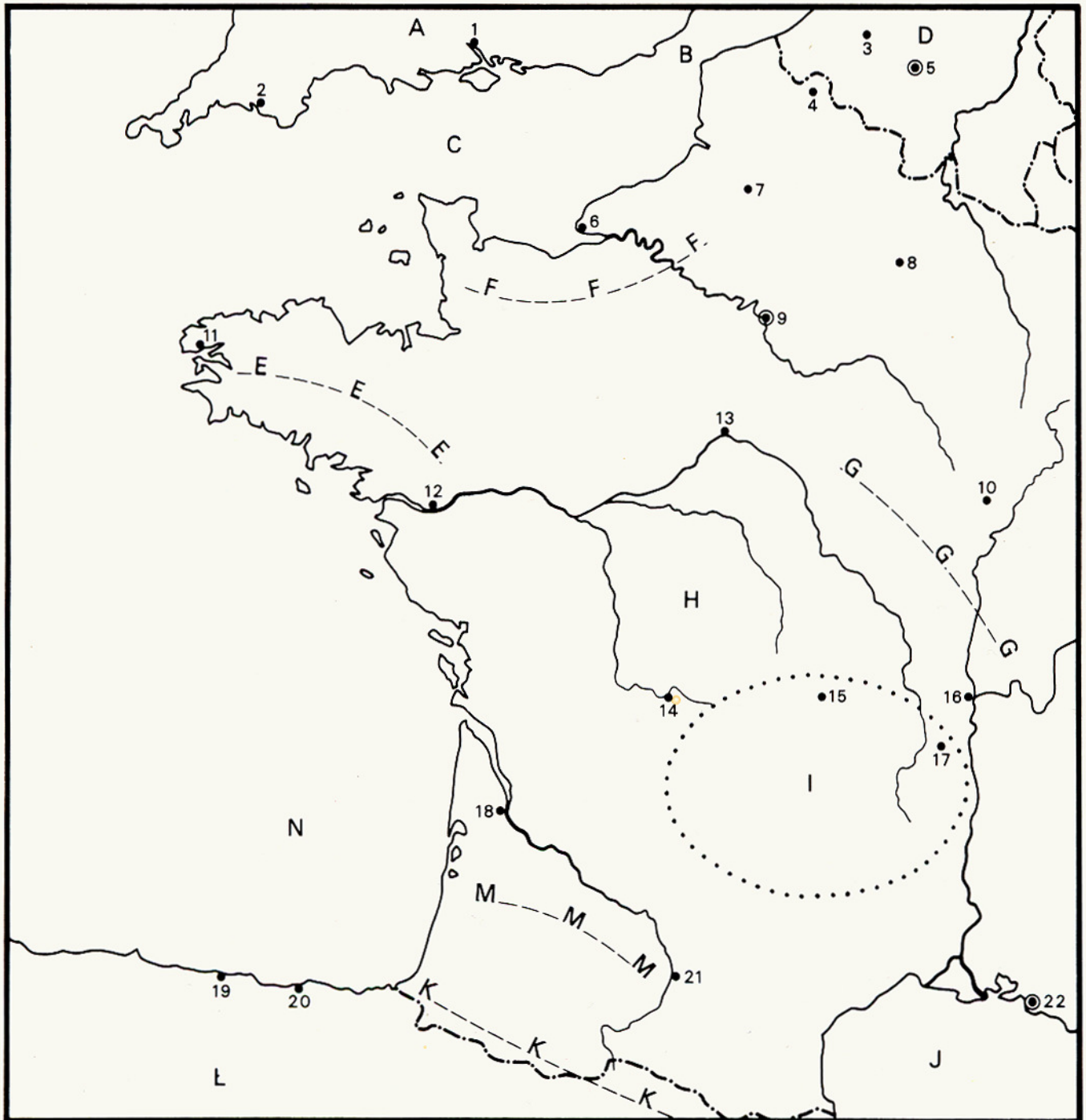
- Print out pdf number one and two.
- Pdf one is for your reference. On this pdf a list of geographical names to be positioned on the map of France is given. The positions of the labelled map elements are indicated on the map below of the list.
- Pdf two contains the geographical names and a empty map. The names need to be cut out and glued to the empty map.
- Cut out the individual names with a pair of scissors or with a cutting instrument.
- As names may have to be repositioned frequently, use a repositionable adhesive for sticking down the paper names on the paper map.
- It is handy to use a pair of tweezers for the individually cut out letters.

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Location of labelled map elements

| | | | |
|-------------------|---------------------|----------------------|----------------|
| A England | L España | 8. Reims | 19. Santander |
| B Strait of Dover | M Gascogne | 9. Paris | 20. Bilbao |
| C English Channel | N Golfe de Gascogne | 10. Dijon | 21. Toulouse |
| D België | 1. Southampton | 11. Brest | 22. Marseilles |
| E Bretagne | 2. Plymouth | 12. Nantes | I. Meuse |
| F Normandie | 3. Gent | 13. Orléans | II. Seine |
| G Bourgogne | 4. Lille | 14. Limoges | III. Loire |
| H France | 5. Brussel | 15. Clermont-Ferrand | IV. Rhône |
| I Massif Central | 6. Le Havre | 16. Lyon | V. Saône |
| J Golfe du Lion | 7. Amiens | 17. St. Étienne | VI. Garonne |
| K Pyrénées | | 18. Bordeaux | |



Rhône Rhône Seine Loire Garonne Saône Meuse Strait of Dover Golfe du Lion

ENGLISH CHANNEL GOLFE DE GASCOGNE

PYRÉNÉES MASSIF CENTRAL

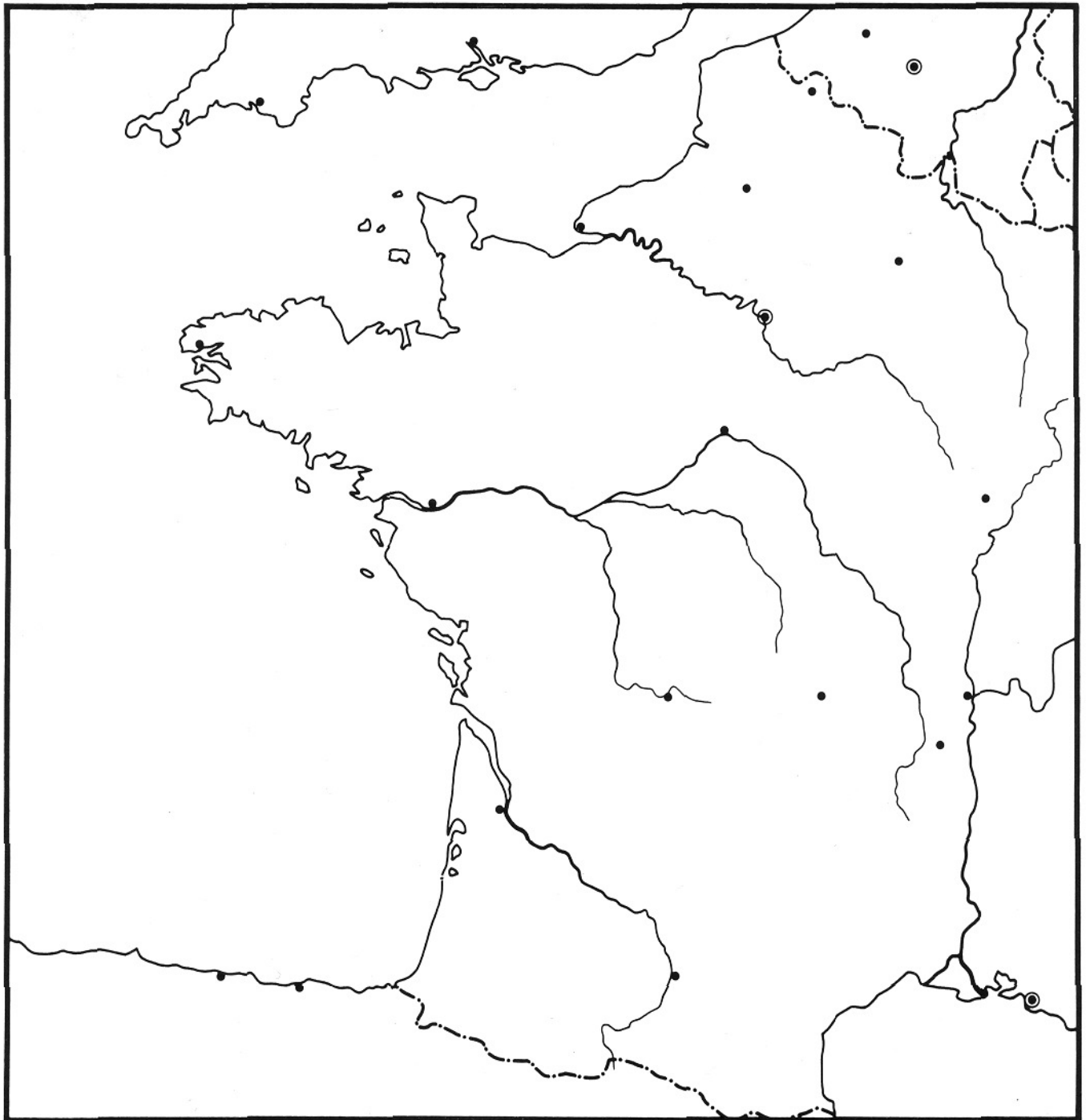
BRETAGNE NORMANDIE GASCOGNE BOURGOGNE

ENGLAND BELGIË FRANCE ESPAÑA

BRUSSEL Gent Southampton Plymouth PARIS Lille Amiens Le Havre Brest Nantes

Orléans Reims Dijon Clermont-Ferrand Lyon St.Étienne Limoges Bordeaux Toulouse

MARSEILLES Santander Bilbao



EXERCISE 1: PLACING GEOGR. NAMES ON THE MAP OF FRANCE - ANSWERS

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DOCUMENTS AND LITERATURE



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Available documents:

- [D16-01](#): Ormeling, F.J. (2001). *Name placement on maps*. Pp 139-140 in Compiled and edited by Ferjan Ormeling, K. Hans Stabe and Jörn Sievers (eds.) Training Course on Toponymy. Enschede, Frankfurt am Main, Berlin. 11 August - 6 September 2002. Mitteilungen des Bundesamtes für Kartographie und Geodäsie. Band 28. Verlag des Bundesamtes für Kartographie und Geodäsie, Frankfurt am Main.
- [D16-02](#): Ormeling, F.J. & A. Illert (2002). *Name placement*. Powerpoint presentation presented at the 8th United Nations Conference on the Standardization of Geographical Names in Berlin, Germany.
- [D16-03](#): Tichelaar, T. (2005). *Course material: Names placement on maps*.

Literature:

- Imhof, E. (1962). *Die Anordnung der Namen in der Karte*. In International cartographical yearbook vol. 2, 1962, pp. 93-129. With English summary and with superb illustrations.

Online resources:

- Wikipedia: [Automatic label placement](#)
- [Automatic cartographic text placement](#)

The United Nations sell the following publications which also can be downloaded from the [UNGEGN](#) website:

- [Glossary](#) of Terms for the Standardization of Geographical Names (New York 2002) / [pdf](#)
- [Manual](#) for the national standardization of geographical names (UN - Ecosoc, New York, 2006 ST/ESA/STAT/SERM/88 Sales No. E.06.XVII.7 ISBN 92-1-161490-2, available in the 6 UN languages) / [pdf](#)
- [Technical reference manual](#) for the standardization of geographical names (New York, 2007) / [pdf](#)
- [Resolutions](#) adopted at the nine UN Conferences on the standardization of geographical names ([English \(pdf\)](#) / [French \(pdf\)](#))